[0036] Light grids generally consist of two transmitter strips arranged perpendicular to one another, which each emit a plurality of light beams, and also receiver strips located opposite each transmitter strip, which detect the light beams. The light beams from the transmitter strips arranged perpendicular to one another cross in this situation and create a light grid. In the event of penetration of the light grid, the absence of at least one light beam on the receiver strips arranged perpendicular to one another is detected in each case in such a way that pairs of coordinates can be formed which serve to determine precisely the location of penetration. The coordinates ascertained can then be sent as a first signal to the control unit μP.

[0037] In this situation, the light grid is arranged in such a way above the first layer S_1 that the bulges in points on the display surface produced by the knob matrix $N_1 \ldots N_m$ do not interrupt any light beams.

1. Touch-sensitive display with tactile feedback, characterized by

a) a first layer S_1 with a mechanically flexible display medium,

b) a second layer S_2 with at least one receptor,

c) a third layer S_3 with at least one controllable actuator,

d) the second layer S_2 being disposed in such a way that receptor detects a contact in at least one section of the first layer S_1 and generates at least one first signal,

e) the third layer being disposed in such a way that the controllable actuator mechanically manipulates the first layer S_1 at least in some points of the section,

f) a control device μP which is designed and contacted with the second layer S_2 and the third layer S_3 in such a way that in an initial state at least one second signal for controlling the actuator is generated, whereby at least one modified second signal is generated on the basis of the first signal.

2. Display according to claim 1, characterized in that the display medium is a membrane which is designed in accordance with the "electronic paper", "microencapsulated electrophoretic display" or "organic electroluminescence" technologies.

3. Display according to Claim 1 or **2**, characterized in that the receptor is designed as a light grid.

4. Display according to one of claims 1 to 3, characterized in that

a) the actuator is a first matrix arrangement of electrically and/or magnetically driven moveable pins $N_1 \ldots N_m$,

b) the pins $N_1 \ldots N_m$ can move perpendicular to the surface of the first layer S_1.

5. Display according to one of claims 2 to 4, characterized in that

a) the receptor is a second matrix arrangement of electrically and/or magnetically driven moveable pins $N_1 \ldots N_m$,

b) the pins $N_1 \ldots N_m$ can move perpendicular to the surface of the first layer S_1.

6. Display according to claim 5, characterized in that the second layer S_2 and third layer S_3 form a common layer, whereby the pins $N_1 \ldots N_m$ of the first matrix arrangement and the pins $N_1 \ldots N_m$ of the second matrix arrangement are located beside one another.

7. Display according to claim 6, characterized in that the pins $N_1 \ldots N_m$ are designed to act simultaneously as actuator and receptor.

8. Display according to one of claims 4 to 6, characterized in that the pins $N_{1 \ldots Nm}$ are piezoelectric elements.

9. Display according to one of claims 4 to 6, characterized in that the pins $N_1 \ldots N_m$ are electromagnetic elements.

10. Display according to one of the preceding claims, characterized in that the second layer S_2 is a sensor mat.

11. Display according to claim 10, characterized in that

a) the first layer S_1 comes to be located beneath the second layer S_2,

b) the second layer S_2 is transparent and flexible.

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